

ABSTRACT OF THE DISCLOSURE

[0059] Methods, manufactures, machines and compositions are described for nanotransfer and nanoreplication using deterministically grown sacrificial nanotemplates. A method includes depositing a catalyst particle on a surface of a substrate to define a deterministically located position; growing an aligned elongated nanostructure on the substrate, an end of the aligned elongated nanostructure coupled to the substrate at the deterministically located position; coating the aligned elongated nanostructure with a conduit material; removing a portion of the conduit material to expose the catalyst particle; removing the catalyst particle; and removing the elongated nanostructure to define a nanoconduit.